

Claims:

1. A human cytomegalovirus (hCMV) Intron A fragment, wherein said fragment lacks the full-length Intron A sequence and comprises: (a) a sequence of nucleotides
5 having at least about 75% sequence identity to the contiguous sequence of nucleotides found at positions 1-25, inclusive, of Figure 1A, and (b) a sequence of nucleotides having at least about 75% sequence identity to the contiguous sequence of nucleotides found at positions 775-820, inclusive, of Figure 1A, wherein when said fragment is present in an expression construct, the expression construct achieves expression levels greater than
10 those levels achieved by a corresponding construct that completely lacks an Intron A sequence.
2. The Intron A fragment of claim 1, wherein when said fragment is present in an expression construct, the expression construct achieves expression levels at least two-fold
15 greater than those levels achieved by a corresponding construct that completely lacks an Intron A sequence.
3. The Intron A fragment of claim 1, wherein when said fragment is present in an expression construct, the expression construct achieves expression levels at least ten-fold
20 greater than those levels achieved by a corresponding construct that completely lacks an Intron A sequence.
4. The Intron A fragment of claim 1, wherein when said fragment is present in an expression construct, the expression construct achieves expression levels at least fifty-
25 fold greater than those levels achieved by a corresponding construct that completely lacks an Intron A sequence.
5. The Intron A fragment of claim 1, wherein said fragment comprises: (a) a sequence of nucleotides having at least about 75% sequence identity to the contiguous
30 sequence of nucleotides found at positions 1-51, inclusive, of Figure 1A, and (b) a

sequence of nucleotides having at least about 75% sequence identity to the contiguous sequence of nucleotides found at positions 741-820, inclusive, of Figure 1A, wherein when said fragment is present in an expression construct, the expression construct achieves expression levels greater than those levels achieved by a corresponding
5 construct that completely lacks an Intron A sequence.

6. The Intron A fragment of claim 5, wherein when said fragment is present in an expression construct, the expression construct achieves expression levels at least two-fold greater than those levels achieved by a corresponding construct that completely lacks an
10 Intron A sequence.

7. The Intron A fragment of claim 5, wherein when said fragment is present in an expression construct, the expression construct achieves expression levels at least ten-fold greater than those levels achieved by a corresponding construct that completely lacks an
15 Intron A sequence.

8. The Intron A fragment of claim 5, wherein when said fragment is present in an expression construct, the expression construct achieves expression levels at least fifty-fold greater than those levels achieved by a corresponding construct that completely lacks
20 an Intron A sequence.

9. The Intron A fragment of claim 5, wherein said fragment comprises the sequence of nucleotides 1-51, inclusive, of Figure 1A, linked to nucleotides 741-820, inclusive, of Figure 1A.
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10. The Intron A fragment of claim 5, wherein said fragment comprises the Intron A nucleotide sequence depicted in Figure 1C, or a nucleotide sequence with at least about 75% sequence identity thereto.

11. The Intron A fragment of claim 10, wherein said fragment consists of the Intron A nucleotide sequence depicted in Figure 1C.

12. A human cytomegalovirus (hCMV) Intron A fragment, wherein said fragment
5 lacks the full-length Intron A sequence and comprises: (a) a sequence of nucleotides having at least about 75% sequence identity to the contiguous sequence of nucleotides found at positions 1-25, inclusive, of Figure 1A, and (b) a sequence of nucleotides having at least about 75% sequence identity to the contiguous sequence of nucleotides found at positions 775-820, inclusive, of Figure 1A, wherein when said fragment is present in an
10 expression construct, the expression construct achieves expression levels equal to, or greater than, those levels achieved by an expression construct that includes a corresponding intact, full-length Intron A sequence.

13. A human cytomegalovirus (hCMV) Intron A fragment, wherein said fragment
15 lacks the full-length Intron A sequence and comprises: (a) a sequence of nucleotides having at least about 75% sequence identity to the contiguous sequence of nucleotides found at positions 1-51, inclusive, of Figure 1A, and (b) a sequence of nucleotides having at least about 75% sequence identity to the contiguous sequence of nucleotides found at positions 741-820, inclusive, of Figure 1A, wherein when said fragment is present in an
20 expression construct, the expression construct achieves expression levels equal to, or greater than, those levels achieved by an expression construct that includes a corresponding intact, full-length Intron A sequence.

14. A recombinant expression construct effective in directing the transcription of
25 a selected coding sequence, said expression construct comprising:

(a) a coding sequence;

(b) control elements that are operably linked to said coding sequence, wherein said control elements comprise the Intron A fragment of claim 1,

whereby said coding sequence can be transcribed and translated in a host cell.

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15. A recombinant expression construct effective in directing the transcription of a selected coding sequence, said expression construct comprising:

(a) a coding sequence;

(b) control elements that are operably linked to said coding sequence, wherein

5 said control elements comprise the Intron A fragment of claim 9,

whereby said coding sequence can be transcribed and translated in a host cell.

16. A recombinant expression construct effective in directing the transcription of a selected coding sequence, said expression construct comprising:

10 (a) a coding sequence;

(b) control elements that are operably linked to said coding sequence, wherein said control elements comprise the Intron A fragment of claim 11,

whereby said coding sequence can be transcribed and translated in a host cell.

15 17. The recombinant expression construct of claim 14, wherein said control elements further comprise a promoter selected from the group consisting of an SV40 early promoter, a CMV promoter, a mouse mammary tumor virus LTR promoter, an adenovirus major late promoter, an RSV promoter, a SR α promoter, and a herpes simplex virus promoter.

20 18. The recombinant expression construct of claim 16, wherein said control elements further comprise the hCMV immediate-early (IE1) enhancer/promoter region found at nucleotide positions 460 to 1264 of Figure 2, and said control elements further comprise Exon 2 of the 5'-UTR comprising the sequence of nucleotides depicted at
25 positions 821-834, inclusive, of Figure 1A.

19. A host cell comprising the recombinant expression construct of claim 14.

20. A host cell comprising the recombinant expression construct of claim 15.

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21. A host cell comprising the recombinant expression construct of claim 16.

22. A host cell comprising the recombinant expression construct of claim 18.

5 23. A method of producing a recombinant polypeptide comprising:
 (a) providing a population of host cells according to claim 19; and
 (b) culturing said population of cells under conditions whereby said coding
sequence of said recombinant expression construct is expressed, thereby producing said
recombinant polypeptide.

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 24. A method of producing a recombinant polypeptide comprising:
 (a) providing a population of host cells according to claim 20; and
 (b) culturing said population of cells under conditions whereby said coding
sequence of said recombinant expression construct is expressed, thereby producing said
15 recombinant polypeptide.

 25. A method of producing a recombinant polypeptide comprising:
 (a) providing a population of host cells according to claim 21; and
 (b) culturing said population of cells under conditions whereby said coding
20 sequence of said recombinant expression construct is expressed, thereby producing said
recombinant polypeptide.

 26. A method of producing a recombinant polypeptide comprising:
 (a) providing a population of host cells according to claim 22; and
25 (b) culturing said population of cells under conditions whereby said coding
sequence of said recombinant expression construct is expressed, thereby producing said
recombinant polypeptide.

 27. A method of producing a recombinant polypeptide comprising:
30 (a) introducing the expression construct of claim 14 into a host cell; and

(b) causing expression of the coding sequence of said expression construct to produce the recombinant polypeptide.

28. A method of producing a recombinant polypeptide comprising:

- 5 (a) introducing the expression construct of claim 15 into a host cell; and
(b) causing expression of the coding sequence of said expression construct to produce the recombinant polypeptide.

29. A method of producing a recombinant polypeptide comprising:

- 10 (a) introducing the expression construct of claim 16 into a host cell; and
(b) causing expression of the coding sequence of said expression construct to produce the recombinant polypeptide.

30. A method of producing a recombinant polypeptide comprising:

- 15 (a) introducing the expression construct of claim 18 into a host cell; and
(b) causing expression of the coding sequence of said expression construct to produce the recombinant polypeptide.

31. A polynucleotide comprising the sequence depicted in Figure 5B.